

### **REMARKS**

This Amendment responds to the Office Action mailed September 3, 2008, in the above-identified application. For the following reasons, careful reconsideration and allowance of the application are respectfully requested.

Claims 1–38 are pending in the application. Claims 13–24 and 37 have been withdrawn from consideration. No claims have been amended. Accordingly, claims 1–12, 25–36 and 38 are currently pending, with claims 1 and 25 being independent claims. The currently pending claims are listed above for the convenience of the Examiner.

The Examiner has rejected claims 1, 2, 5, 11 and 36 under 35 U.S.C. §103(a) as unpatentable over Scribe (Article entitled: “Scribe: A Large-Scale and Decentralized Application-Level Multicast Infrastructure”) in view of Feigenbaum et al. (U.S. 4,718,005) and Crockett et al. (U.S. 2003/0154243). Claims 3, 4 and 12 are rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Feigenbaum et al. and Crockett et al., further in view of Speakman et al. (U.S. 6,389,475). Claim 6 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Feigenbaum et al. and Crockett et al., further in view of Jonsson (U.S. 2003/0162499). Claim 7 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Feigenbaum et al., Crockett et al., and Jonsson, further in view of mail.yahoo.co.uk. Claim 8 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Feigenbaum et al., Crockett et al., and Jonsson, further in view of Novaes et al. (U.S. 2003/0012130). Claim 9 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Feigenbaum et al., Crockett et al., Jonsson and Novaes et al., further in view of Speakman et al. Claim 10 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Feigenbaum et al., Crockett et al., Jonsson, Novaes et al., and Speakman et al., further in view of Burbeck et al. (U.S. 7,143,139). Claims 25, 26, 27 and 38 are rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Speakman et al. and O’Sullivan (Article entitled: “The Internet Multicast Backbone”). Claim 28 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Speakman et al., and O’Sullivan, further in view of Novaes et al. Claims 29 and 30 are

rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Speakman et al., O'Sullivan and Novaes et al., further in view of Stanko (U.S. 2005/0074126). Claim 31 is rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Speakman et al., O'Sullivan, Novaes et al., and Stanko, further in view of Traversat et al. (U.S. 2002/0143855). Claims 32 and 35 are rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Speakman et al. and O'Sullivan, further in view of Novaes et al. Claims 33 and 34 are rejected under 35 U.S.C. §103(a) as unpatentable over Scribe in view of Speakman et al. and O'Sullivan, further in view of Burbeck et al. The rejections are respectfully traversed in view of the amended claims.

The Scribe multicasting infrastructure relies on application level routing provided by overlay networks. The Scribe multicasting infrastructure is described at page 3, line 11 to page 4, line 8 of the present application.

Feigenbaum discloses techniques which permit data processing systems linked to nodes of a communication network to create and use alias names on a distributed basis, and thereby to sustain data communications between resources known by various names, and distributed throughout the network, without dependence on a central or master directory (Col. 1, lines 38-43). In discussing extension of name communications through nodal bridges and gateways, Feigenbaum describes topological restrictions on the transfer of requests across network boundaries (Col. 11, lines 14-58). In particular, Feigenbaum describes providing a "hop count" number with a communication to restrict its transfer across network boundaries. This number indicates the number of network boundaries which the communication may cross (Col. 11, lines 19-27).

Crockett describes a method and apparatus for registering a user in a group communication network, including a location server that maintains user location information (Paragraph 0048). Crockett states that the user location information may be the IP address of the client, regardless of whether the client is connected via wireless or wireline services (Paragraph 0096).

Speakman describes content-based filtering of multicast information. A set of sources that wishes to distribute information in different categories each associates a content descriptor with messages containing information in those categories. A mapping server associates a multicast address and a content mask with each content descriptor so that network elements can distribute only those messages which are of interest to recipients in multicast distribution trees (Col. 1, lines 55–67). Speakman does not disclose or suggest joining a first multicast tree and joining a second multicast tree that includes a subset of the overlaying nodes in the first multicast tree, as claimed. Instead, Speakman describes a network where the nodes in the multicast tree perform content-based filtering of messages.

O’Sullivan describes the Internet multicast backbone and states that the multicast backbone is a cooperative voluntary effort, consisting of Internet service providers who route multicast traffic over their networks and end users who install multicast routers at their site (Background). O’Sullivan’s technique for participating is that a user simply opts out of the multicast backbone entirely if he does not wish to participate.

Regarding the rejection of claim 1, Feigenbaum does not disclose or suggest a multicast tree such that a path in the multicast tree is prohibited from re-entering the first network region once the path leaves the first network region. Instead, Feigenbaum describes a broadcast communication provided with a hop count that restricts transfer across network boundaries. The hop count indicates the number of network boundaries which the communication may cross (Col. 11, lines 19–27). Feigenbaum states that a zero hop count value prevents further forwarding so that messages crossing between B and C could not re-enter A (Col. 11, lines 46–49).

As indicated in the previous response, Applicant contends that adding a hop count to a communication is very different from forming a multicast tree such that a path in the multicast tree is prohibited from re-entering a first network region once the path leaves the first network region. A *path* in a multicast tree that does not re-enter a first network region is distinctly different from a *message* that does not re-enter the first network region.

In paragraphs 4–6 of the Response to Arguments section of the Office Action, the Examiner asserts that Feigenbaum does teach that a path in the multicast tree is prohibited from re-entering the first network region once the path leaves the network region and further asserts that the claimed “path” corresponds to the path taken by the communication in Feigenbaum. Applicant must respectfully disagree. Feigenbaum *must* provide a path that re-enters the first network region, so that messages can be transferred to the first network region before the hop count reaches the specified hop count value. By contrast, Applicant’s claim 1 *prohibits* a path in the multicast tree from re-entering the first network region once the path leaves the first network region. Since a path of the multicast tree does not re-enter the first network region, a message cannot be transferred to the first network region regardless of whether a hop count is less than or greater than a specified hop count value. Thus, it is apparent that a *path* in the multicast tree that is prohibited from re-entering the first network region, as defined by Applicant’s claim 1, is very different from a *message* that is restricted by a hop count from re-entering the first network region, as described by Feigenbaum.

Scribe and Crockett do not provide the teachings that are lacking in Feigenbaum. For at least the reasons discussed above, amended claim 1 is clearly and patentably distinguished over Scribe in view of Feigenbaum and Crockett, and withdrawal of the rejection is respectfully requested.

Claims 2–12 and 36 depend from claim 1 and are patentable over the cited references for at least the same reasons as claim 1.

Regarding claim 25, the Examiner contends that Speakman shows joining a second multicast tree formed from the first multicast tree, wherein the second multicast tree includes a subset of the overlay nodes in the first multicast tree. Applicant must respectfully disagree. Speakman states that each recipient obtains the associated source, multicast address and content mask, for each content descriptor of interest and uses that information to join the multicast distribution tree for that information (Col. 2, lines 1–12). However, Speakman requires every node in the forwarding path to participate if any of the downstream nodes in the tree are

interested in the data, regardless of whether the forwarding node itself is interested in the data. Thus, all nodes in the multicast tree of Speakman are participating nodes that participate in message dissemination. Speakman does not disclose or suggest non-participating nodes as claimed and does not disclose or suggest a second multicast tree formed from a subset of the overlay nodes in a first multicast tree, as claimed.

In paragraph 2 of the Response to Arguments section of the Office Action, the Examiner asserts that Speakman does indeed teach joining a second multicast tree that includes a subset of the overlay nodes in a first multicast tree and refers to column 3, lines 24-47 and column 5, lines 9-55 of Speakman. Applicant must respectfully disagree. Column 3, lines 25-47 of Speakman describes a protocol message including a content descriptor CD that specifies the category of the information to be distributed. Column 5, lines 9-55 of Speakman describes how the content descriptor CD is used to filter multicast information packets sent on the multicast tree. All of the nodes in the multicast tree of Speakman participate in message dissemination, whether or not the message is forwarded. The cited portions of Speakman contain no teaching of joining a second multicast tree that includes a subset of the overlay nodes in the first multicast tree.

In paragraph 12 of the Response to Arguments section of the Office Action, the Examiner contends that Speakman, at column 5, lines 50-56, teaches limiting the number of participating nodes to a subset of the nodes where the nodes that have not indicated that they desire to receive the information are not participating nodes. Again, Applicant must respectfully disagree. Applicant's claim 25 recites non-participating overlay nodes that *do not wish to participate in message dissemination*. By contrast, Speakman describes nodes that *do* participate in message dissemination by filtering the received packets and determining whether at least one downstream recipient has indicated that it desires to receive at least some of the information having one of the content descriptors. Even if the packets are not forwarded, the node *participates* in message dissemination by deciding whether or not to forward the packets. Accordingly, it is submitted that Speakman does not disclose a first multicast tree that includes overlay nodes that voluntarily participate in message dissemination and non-participating overlay nodes that do not wish to

participate in message dissemination, and a second multicast tree formed from the first multicast tree wherein the second multicast tree includes only the overlay nodes that voluntarily participate in message dissemination and excludes the non-participating overlay nodes.

Scribe and O'Sullivan do not provide the teachings that are lacking in Speakman. For at least the reasons discussed above, claim 25 is clearly and patentably distinguished over Scribe in view of Speakman and O'Sullivan, and withdrawal of the rejection is respectfully requested.

Claims 26–35 and 38 depend from claim 25 and are patentable over the cited references for at least the same reasons as claim 25.

In paragraphs 9, 12 and 14 of the Response to Arguments section of the Office Action, the Examiner notes that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. Applicants are well aware of this requirement and have simply argued that individual references do not contain the teachings asserted by the Examiner.

Since each of the dependent claims depends from an independent claim that is believed to be in condition for allowance, Applicant believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. However, Applicant does not necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor does the Applicant concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future.

Based upon the above discussion, claims 1–12, 25–36 and 38 are in condition for allowance.

**CONCLUSION**

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. M1103.70235US00.

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Respectfully submitted,

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